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High pressure synthesis of single crystalline MgB_2[1] M. TILLMAN, Ames Lab / Iowa State University, G. LAPERTOT, CEA-Grenoble, DRFMC/SPSMS/IMAPEC, R. PROZOROV, C. MARTIN, S.L. BUD'KO, P.C. CANFIELD, Ames Lab / Iowa State University — We report the results of single crystal growth of MgB_2. A high pressure furnace, using a 19 mm truncation edge length, cubic anvil capable of reaching 3.3 GPa and 2000 C was used to grow crystals of MgB_2 out of the Mg-B-N ternary. Design, setup, and calibration will be discussed as well as correlations between pressure and temperature profiles and crystal size. Results of measurements of penetration depth and $H_{c2}(T)$ on single crystals will be shown as well as the results of initial doping studies.

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